Understanding the Consequences of Deduru Oya River Flooding in Kobeigane DS Division

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Abstract

Sri Lanka experiences continuous monsoon rains, driven by the South Westerly winds from May to September and the North East monsoon winds from September to February annually. However, these patterns have shifted due to various weather changes, leading to unpredictable and intensified weather conditions. This alarming trend has resulted in frequent flooding, causing substantial social and economic losses across the country. This study examines the impacts of flood hazards caused by the Deduru Oya River on the Kobeigane DSD. As one of Sri Lanka's major rivers, the Deduru Oya frequently overflows during the monsoon seasons, disrupting surrounding communities, agriculture, and infrastructure. Situated within the floodplain, the Kobeigane DSD is particularly vulnerable to these recurring floods, leading to severe socio-economic and environmental consequences. This research aims to assess the extent of flood hazards, their socio-economic impact on local communities, the damage to agricultural activities, and disruptions to public infrastructure. A mixed-method approach was employed, integrating both quantitative and qualitative data collection techniques. Field surveys, interviews with affected residents, and GIS mapping of flood-prone areas were conducted to evaluate the scale of damage and analyse response mechanisms. The findings reveal that recurrent flooding not only causes direct losses, such as damage to property, crops, and infrastructure, but also leads to long-term disruptions in livelihoods, education, and healthcare services. Local communities are often forced into temporary relocation, while the agricultural sector, a key economic driver in the region, suffers from soil erosion and crop destruction. Additionally, the study highlights the lack of adequate flood control measures and emergency response systems in the area. The study concludes with recommendations for enhancing flood management strategies, including improved land-use planning, flood early warning systems, and community-based disaster preparedness programs. These measures aim to mitigate the adverse effects of future floods and strengthen the resilience of the Kobeigane DS Division against flood hazards.

Keywords: Deduru Oya, Kobeigane DS Division, flood hazards, socio-economic impacts, disaster resilience